Resources

This subsection covers the following topics:

- What Are Resources?
- Periods of Resource Allocation
- Inhibiting a Resource Deallocation, if a Job Ended not ok
- Manual Emergency Actions
- Resource Amount Determination by User Routines (Exits)

What Are Resources?

See also the subsection Resources in the section Entire Operations Objects of Concepts and Facilities.

Resources can be prerequisites for a job. Entire Operations does not submit a job until the amount of resource defined is available. You can thus use resources to further control the job flow when all input conditions for jobs that can run parallel are set. You do this by defining the priority with which resources are allocated to a job.

Resources can be

- quantitative or absolute;
- reusable or un-reusable.

Some examples of resources are listed below:

Resource	Type
Print forms	Quantitative, un-reusable
Main storage	Quantitative, reusable
Line to a remote machine	Absolute
Availability of a device	Absolute

Each resource must be defined in the System Adminstrator Services as a master resource, before it can be defined as a prerequisite for any job.

The current amount of a master resource can be determined by an exit, which will be invoked periodically by the Entire Operations Monitor. For a detailed discussion, please see here.

Resources can reflect real system resources or they can be virtual. Entire Operations monitors resources as defined in the Network and Job Maintenance facility. See the subsection Defining Prerequisite Resources in the section Job Maintenance for more details.

Periods of Resource Allocation

Usually a resource is allocated for the duration of a job execution. Before Entire Operations, resources could be allocated only in this way.

Starting with Entire Operations, it is possible to allocate resources for a longer period. This can be defined in the prerequisite resource definition for a job (deallocation mode).

The following types of resource deallocation exist:

Code	Type	Explanation
J	Release at job termination (default)	The resource is released when the allocating job terminates.
N	Release at network termination	The resource will be released when the Entire Operations Monitor detects that all jobs of a job network are terminated. **Note:** To override the automatic detection of "network ended ok", you must set the reserved condition NET-END-OK at least once in your network.
K	Keep until manual release	The resource will **not** be released automatically at job or network termination.

The following additional rules always apply:

- If an active network or job is **deactivated**, all the resources allocated by it will be released too. This will be performed regardless of the defined deallocation mode. That means: Even resources with deallocation mode K (keep) will be released in such a case.
- Master resource amounts can be modified by API calls.
  Note that this is possible only if the amount is not determined by a resource master determination exit.
- Resources can be allocated for a job by an API call. These additionally allocated resources will be handled in the same way as defined prerequisite resources.
- Resources can be deallocated by API calls. Preliminary releases of resources are allowed for deallocation modes.
- All resource allocations and deallocations will be logged.

Inhibiting a Resource Deallocation, if a Job Ended not ok

It is possible to inhibit a resource deallocation, if a job ended not ok. This can e.g. be used to keep a resource during a recovery for an unsuccessful run. The additional rules apply here, too. That means, such a resource will also be released automatically if the allocating job is deactivated.

Manual Emergency Actions

All current resource allocations can be inquired in usage lists. From these active resource usage lists it is possible to force the deallocation of a given resource allocation.

Please use this feature with care. Be aware that one or several active jobs may be started immediately, which were way for this resource.

Resource Amount Determination by User Routines (Exits)

The available amount of a resource can be determined by the usage of an exit. A resource master determination exit will be invoked by the Entire Operations Monitor before prerequisite resource checks.